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A Catalogue of the Genus *Liguus* with a Description of a New Subgenus

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Various species and color forms of *Liguus* are found in Hispaniola, Cuba, the Isle of Pines and southern Florida. They are arboreal in habit, feeding mainly on bark-growing lichens and descending from the trees only to lay their eggs in the moist ground. After hatching, the young snails ascend the trees and generally feed first on the leaf-growing lichens, but soon start feeding on the twigs and small branches and then later the lichen-covered bark of the main branches and trunk.

It is possible that this genus may survive on many of the remote hammocks in the Everglades, at least for a time. I doubt very much, however, that they can survive indefinitely, in spite of collecting restrictions, even within a park area. Drainage and the consequent fires during the dry period will reduce their numbers until eventually they will disappear.

The situation in Cuba and Hispaniola has a much brighter outlook, though even on these two islands the same factors are at work and many colonies which were common a few years ago are now extinct. The main difference is that here *Liguus* is far more extensively distributed even though localized as to colonies. They are not at all coextensive with the forested areas.

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Liguus appear to be colonial in habit. This is certainly true in Hispaniola and Cuba where colonies exist which have very definite limits in the territory they occupy. In Florida the situation is different only because there are very specific limits to the type of habitat they can occupy; i.e., the hammocks or islands of the Everglades and the hammock land of deciduous trees which exists along the Miami ridge and on the lower keys. *Liguus* in this regard is similar to *Cerion* in Cuba. A colony of either may occupy only a small portion of a larger region of uniform habitat. The flora, general geology of the terrain and other factors appear to be exactly the same, yet the snails are found in but a small portion of what appears to be an entirely uniform ecological situation.

Liguus, in common with many other land shells, possesses two color phases, exhibited mainly in the embryonic whorls. In the *fasciatus* complex, this color occurs on the parietal wall as well. Thus shells with a similar color pattern will occur with white embryonic whorls and a white parietal area, or with a pink spire tip and parietal area. Unfortunately, classification as to species was arbitrarily made on the basis of white or pink tipped shells. A yellow banded shell with a pink tip was called *Liguus fasciatus roseatus* and a similar yellow banded shell with a white tip was called *Liguus crenatus cingulatus*. Though still separated as "forms" the best grouping is to consider all under the older species name of *fasciatus*. The name *crenatus* is limited to the white shells in the central Cuban region that are all apparent albinistic forms of *Liguus fasciatus* s.s. This classification is, of course, still highly artificial but it is far better than the older procedure where the progeny of a single individual were automatically classified under two species.

The following abbreviations for serials, museums and museum publications are used in order to reduce the length of the references.

- ANSP – Academy of Natural Sciences, Philadelphia, Pennsylvania.
 JANSP – Journal Academy of Natural Sciences, Philadelphia.
 JWAS – Journal Washington [D.C.] Academy of Science.
 LFW – In Lower Florida Wilds, by Charles Torrey Simpson, G.P. Putnam's Sons, New York, 1920, p. 15 + 404, frontispiece.
 MCZ – Museum of Comparative Zoology, Cambridge, Massachusetts.
 M of C – Manual of Conchology, Philadelphia (2) **12**, p. 160–186.
 N – Nautilus, Philadelphia.
 NM – Nature Magazine, Washington, D.C.
 OPBSNH – Occasional Papers Boston Society of Natural History.
 PBSW – Proceedings Biological Society of Washington, D.C.
 PUSNM – Proceedings United States National Museum, Washington, D.C.
 RSM – Revista Sociedad Malacologica, Habana, Cuba.
 USNM – United States National Museum, Washington, D.C.

Under the original reference names (bold face type) the following abbreviations are used for the various name combinations.

- | | |
|--|---|
| L. – Liguus | L. b. – Liguus blainianus |
| L. c. – Liguus crenatus | L. f. – Liguus fasciatus |
| L. fl. – Liguus flammellus | L. s. – Liguus solidus |

The holotypes of the several species described by C.T. Simpson are probably in the collection of the University of Miami (Florida). Those of Ledón and Guitart are in their own private collections. The location of the remainder, not indicated, are unknown to us.

The genus *Liguus* as now understood consists of a multitude of color forms in five species grouped in three subgenera. Some of these color forms may well rank as subspecies as outlined for the Florida groups (Clench and Fairchild 1939, Proc. New England Zoölogical Club **17**, p. 77–86). As yet no attempt has been made to group similarly the many color forms existing in Cuba, particularly those in the *fasciatus* complex.

The following outline classification lists only the subgenera and species, the catalogue lists all of the color forms as well as the higher groups which have been referred to this genus.

Genus **Liguus** Montfort

(Genotype, *Bulla virginea* Linné).

Subgenus **Liguus** Montfort

(Subgenotype, *Bulla virginea* Linné).

Liguus virgineus Linné. Hispaniola

Subgenus **Liguellus** Clench (see p. 123)

(Subgenotype, *Achatina vittata* Swainson)

Liguus vittatus Swainson. Cuba

Subgenus **Oxystrombus** Mörch

(Subgenotype, *Buccinum fasciatum* Müller)

Liguus fasciatus Müller. Florida, Cuba and the Isle of Pines

Liguus blainianus Poey. Cuba

Liguus flammellus Clench. Cuba

Catalogue of the genus **Liguus**

aguayoi Clench, **L.f.**: 1934, OPBSNH **8**, p. 109, pl. 7, fig. 2 (Punta Roja, Holguin, Cuba) [Holotype MCZ 76696].

alternatus Simpson, **L.f.**: 1920, LFW, frontispiece, fig. 8 (Timb's [Timm's] Hammock, Dade Co., Florida) [Paratype MCZ 85895].

anais Lesson, **Achatina**: 1840, Revue Zoologie **3**, p. 356 (locality unknown) [is *fasciatus* Muller, Pilsbry 1899, p. 168].

angelae Clench and Aguayo, **L.f.**: 1934, OPBSNH **8**, p. 110, pl. 7, fig. 3 (Punta Roja, Holguin, Cuba) [Holotype MCZ 76698].

archeri Clench, **L.f.**: 1934, OPBSNH **8**, p. 106, pl. 7, fig. 5 (Mogote de Ramon Millo, Viñales, Cuba) [Holotype MCZ 80901].

aspirs 'Gmelin' Reed, **L. bliananius** [sic]: 1946, Mollusca **1**, no. 9, no pagination (Cuba) [nude name; no such name by Gmelin exists. A copy of the original label has just been received from Mr. Reed. The name "*aspirs*" is an error for *Aspiro*, a locality 3 miles north of Santa Cruz de los Pinos, Pinar del Río, Cuba].

aurantius Clench, **L.c.**: 1929, N **43**, p. 19 (hammock no. 5, Pinecrest region, central Everglades, Florida) [Holotype MCZ 84624].

austinianus Guitart, **L.f.**: 1945, RSM **3**, p. 27, pl. 4, fig. 1-2 (Loma de la Cruz, near Sancti Spiritus, Cuba) [Paratypes MCZ 153819 and 153820].

- barbouri** Clench, L.c.: 1929, N 43, p. 18 (hammock no. 21, Pinecrest region, central Everglades, Florida) [Holotype MCZ 84527] [is *marmoratus* Pilsbry; Clench 1939, p. 85].
- bermudezi** Clench, L.fl.: 1934, OPBSNH 8, p. 122, pl. 6, fig. 2 (Mogote la Gueca, Viñales, Cuba) [Holotype MCZ 80945].
- blainiana** Poey, *Achatina*: 1851, Mem. Sobre la Hist. Nat. de la Isla de Cuba 1, p. 206, pl. 12, fig. 4-6 (Loma de Rangel, Pinar del Río, Cuba) [Cotypes MCZ 154122 and 161228].
- capensis** Simpson, L.c.: 1920, PBSW 33, p. 122 (northwest Cape Sable, Florida) [Paratype MCZ 85892] [is *elliottensis* Pilsbry; Clench 1939, p. 82].
- carbonarius** Clench, L.fl.: 1934, OPBSNH 8, p. 121, pl. 6, fig. 3 (Mogote de Pita, Viñales, Cuba) [Holotype MCZ 80933].
- caribaeus** Clench, L.f.: 1935, N 49, p. 68, pl. 3, fig. 3 (Monte Dios, Santa Lucia, north coast of Pinar del Río, Cuba) [Holotype MCZ 109050].
- caroli** Bartsch, L.c.: 1937, JWAS 27, p. 131, text fig. 1, (Isla Turiguano, north coast of Camagüey, Cuba) [Holotype USNM 428810].
- castaneozonatus** Pilsbry, L.f.: 1912, JANSP (2) 15, p. 460, pl. 39, fig. 23-23a (back of Charles Point, Key Largo, Florida) [Holotype ANSP].
- castaneus** Simpson, L.f.: 1920, PBSW 33, p. 126 (Cox hammock, Paradise Keys, Florida [this locality is just west of Goulds, Florida and not in the region of Paradise Key]).
- cervus** Clench, L.fl.: 1934, OPBSNH 8, p. 120, pl. 6, fig. 4 (Mogote de Vigil, Viñales, Cuba) [Holotype MCZ 80935].
- Chersina** 'Humphrey' Beck 1836: Index Molluscorum, p. 74; *non* Gray 1831. [As this subgenus was considered a replacement and completely synonymous with *Liguus* by Beck himself, it will automatically take the same genotype, namely *Bulla virginea* Linné.]
- cingulatus** Simpson, L.c.: 1920, PBSW 33, p. 123 (Brickell hammock, Miami, Florida).
- clenchi** Frampton, L.f.: 1932, PBSW 45, p. 56 (hammock no. 46, Pinecrest region, central Everglades, Florida) [is *testudineus* Pilsbry; Clench 1939, p. 85] [Paratypes MCZ 112395].
- crassus** Simpson, L.s.: 1920, PBSW 33, p. 121 (Watson's hammock, Big Pine Key, Florida).
- crenata** Swainson, *Achatina*: 1821, Zoological Illustrations 1, text and pl. 58, fig. 1-2 (Cuba).
- cubensis** Clench, L.fl.: 1934, OPBSNH 8, p. 123, pl. 6, fig. 1 (Mogote la Gueca, Viñales, Cuba) [Holotype MCZ 80951].
- deckerti** Clench, L.f.: 1935, N 48, p. 122, pl. 7, fig. 4 (hammock no. 55, east end of Long Pine Key, south central Everglades, Florida) [Holotype MCZ 81549].
- delicatus** Simpson, L.s.: 1920, PBSW 33, p. 122 (upper end of Lower Matecumbe Key, Florida).
- dohertyi** Pflueger, L.s.: 1934, N 47, p. 121, pl. 13, fig. 2-3 (Lower Matecumbe Key, Florida) [Holotype MCZ 139000].

- dryas** Pilsbry, **L.s.**: 1932, N **45**, p. 106 (No Name Key, Florida); [figured in Pilsbry 1912, JANSF (2) **15**, pl. 37, fig. 16] [Holotype ANSP].
- eburneus** Simpson, **L.c.**: 1920, LFW, frontispiece, fig. 10 (Timb's [Timm's] hammock [near Naranja] Dade County, Florida) [is *elliottensis* Pilsbry; Clench 1939, p. 82].
- elegans** Simpson, **L.f.**: 1920, LFW, frontispiece, fig. 5 (island near and east of Whitewater Bay, Florida) [Paratypes MCZ 85893] [is *lineolatus* Simpson; Clench 1939, p. 84].
- elliottensis** Pilsbry, **L.c.**: 1912, JANSF (2) **15**, p. 447, pl. 37, fig. 3-3b (Elliott's Key, Florida) [Holotype ANSP; Paratypes MCZ 48154].
- emarginata** Swainson, **Achatina**: 1821, Zoological Illustrations **2**, pl. 84 (locality unknown [Jacmel, Haiti; is *virginicus* Linné; Pilsbry 1899, p. 164]).
- excisus** v. Martens, **Liguus**: 1885, Conchologische Mittheilungen **2**, p. 160, 173, pl. 35, fig. 1-2, 4-5 (near Popayan, Colombia) [is in the genus *Hemibulimus*].
- fairchildi** Clench, **L.b.**: 1934, OPBSNH **8**, p. 117, pl. 7, fig. 4 (road between Habana and Santiago de las Vegas, Cuba) [Holotype MCZ 91907].
- farnhami** Doe, **L.c.**: 1937, NM **29**, text fig. 5, no. 6 (Florida) [error for *farnumi* Clench].
- farnumi** Clench, **L.c.**: 1929, N **43**, p. 19 (hammock no. 7, Pinecrest region, central Everglades, Florida) [Holotype MCZ 84586].
- fasciatum** Müller, **Buccinum**: 1774, Vermium Terrestrium et Fluviatilium **2**, p. 145 (The Indies) [Pinar del Río to Camagüey, Cuba].
- feriai** Clench, **L.f.**: 1934, OPBSNH **8**, p. 108, pl. 7, fig. 6 (La Sierra, Holguín, Cuba) [Holotype MCZ 72559].
- flammellus** Clench, **L.fl.**: 1934, OPBSNH **8**, p. 119, pl. 6, fig. 7, (Mogote de Roja, Viñales, Cuba) [Holotype MCZ 80924].
- floridanus** Clench, **L.c.**: 1929, N **43**, p. 20 (hammock no. 8, Pinecrest region, central Everglades, Florida) [Holotype MCZ 84559].
- fuscoflammellus** Frampton, **L.f.**: 1932, PBSW **45**, p. 55 (Timm's hammock, mainland ridge, [near Naranja] Florida).
- gloria-sylvatica** Doe, **L.c.**: 1937, NM **29**, no. 2, p. 83, text fig. 3, no. 7 (Florida) [is *marmoratus* Pilsbry; Clench 1939, p. 85].
- goodrichi** Clench, **L.f.**: 1934, OPBSNH **8**, p. 111, pl. 7, fig. 7 ($\frac{3}{4}$ mile below Castillo de Jagua, Cienfuegos, Cuba) [Holotype MCZ 59533].
- graphicus** Pilsbry, **L.s.**: 1912, JANSF (2) **15**, p. 463, pl. 37, fig. 1-1a (No Name Key, Florida) [Holotype ANSP].
- guillermi** Guitart, **L.b.**: 1943, RSM **1**, p. 83, text fig. (Horno de Cal de Guara, Prov. of Habana, Cuba) [Paratypes MCZ 153816].
- helianthus** Clench, **L.f.**: 1934, OPBSNH **8**, p. 112, pl. 7, fig. 9 (Mogote del Palmarito, Viñales, Cuba) [Holotype MCZ 80911].
- hepatica** Röding, **Helix**: 1798, Museum Boltenianum **2**, p. 106, no. 1358 [is *fasciatus* Müller; Pilsbry 1929, p. 141].

Ilotia Pfeiffer and Clessin: 1881, Nomenclator Heliceorum Viventium, p. 260. Under the synonymy of *Liguus virgineus* Linné, Pfeiffer and Clessin have listed *Ilotia virginea* and *I. puellaris* Bolten [Roding]. Pilsbry (Manual of Conchology (2) 12, p. 164, 1899) following these two authors, did the same. 'Ilotia' Bolten is an error for *Plotia* Bolten. Later Pilsbry and Bequaert (Nautilus 37, p. 36, 1923) made *Plotia lineata* Roding (Pyramidellidae) the genotype of *Plotia*, thus eliminating the possibility that *Plotia* Bolten could be substituted for *Liguus* Montfort. To avoid any later confusion in the use of the name *Ilotia* Pfeiffer and Clessin 1881, it is here designated that *Bulla virginea* Linné is the genotype, thus making it an absolute synonym of *Liguus* Montfort 1810 which has the same genotype.

innominatus Pilsbry, L.s.: 1930, N 44, p. 32; figured in the M of C (2) 12, pl. 59, fig. 97, 1899 (No Name Key, Florida) [Holotype ANSP].

jaumei Clench and Aguayo, L.b.: 1932, N 45, p. 99, pl. 6, fig. 10 (Mangas, on road between Mangas and Candelaria, Pinar del Rio, Cuba) [Holotype MCZ 91720].

josefae Guitart, L.f.: 1945, RSM 3, p. 29, pl. 4, fig. 3-4 (Cortinas de Corenque, Sierra de Cantú, Sancti Spiritus, Cuba) [Paratypes MCZ 153815; Museo Poey].

leonorae Pequeño, L.f.: 1938, Memorias Sociedad Cubana Historia Natural 12, p. 347, pl. 26, fig. 1-4 (Monte del Limón, near Cueva de la Pintura, La Grifa, Guane, Pinar del Rio, Cuba).

lignumvitae Pilsbry, L.f.: 1912, JANSF (2) 15, p. 461, pl. 37, fig. 4-4d (Lignum Vitae Key, Florida) [Holotype ANSP; Paratypes MCZ 48153].

Lignus Gray 1834: Proceedings Zoological Society London 2, p. 66 (? Africa) [genotype, *Lignus tenuis* Gray, monotypic; non *Lignus* Nevill 1878. See also under *Pseudotrochus*].

Lignus Nevill 1878: Hand List of Mollusca in the Indian Museum 1, p. 200 [error for **Liguus**; non **Lignus** Gray 1834].

Liguellus, new subgenus

Shells are characterized by being ovate in shape, somewhat smaller than other *Liguus* in size and having moderately convex whorls. The interior of the aperture is generally pink. The color pattern is in spiral arrangement with no axial flames.

Subgenotype, *Achatina vittata* Swainson

This subgenus is closely related to *Liguus* s.s. It possesses a spiral color pattern and the interior of the aperture is pink. It differs from *Liguus* s.s. by having more rounded whorls, being ovate in outline and being smaller in size. It does not appear to be closely related to either *L. fasciatus* or to *L. blainianus* in the subgenus *Oxystrombus*. The number of colors in the spiral pattern is far more limited in *Liguellus*, than in *Liguus* s.s. There is a complete absence of green, red, and purple; colors which are generally present in *L. virgineus*, while *L. vittatus* possesses only black, brown and yellow.

Only a single species (*vittatus*) of *Liguellus* is known to exist and that is rather remarkably uniform in shape and color pattern throughout its rather

limited range in the Province of Oriente, Cuba. It appears to be indifferently sinistral and dextral, that is, most colonies contain specimens of both forms. This is not to be confused with the rare examples of sinistral specimens which may occur sporadically in any color form of the other species of *Liguus*. A few such cases are on record.

Liguus Denys de Montfort 1810: Conchyliologie Systématique **2**, p. 422 (genotype, *Bulla virginea* Linné, original designation).

lineata Valenciennes, **Achatina**: 1827, [in] Humboldt, Voy. Intér. Amér., Recueil d'Observations de Zoologie **2**, p. 248, pl. 55, fig. 2 (New Spain), non *lineatus* Simpson 1920.

lineatus Simpson, **L.s.**: 1920, LFW, frontispiece, fig. 3, (Lignum Vitae Key, Upper Keys, Florida) [Paratypes MCZ 85888] [is *simpsoni* Pilsbry, non *lineata* Valenciennes 1827; Pilsbry 1921, p. 140].

lineolatus Simpson, **L.f.**: 1920, LFW, frontispiece, fig. 2 (Totten's Key, Upper Keys, Florida).

livingstoni Simpson, **L.f.**: 1920, PBSW **33**, p. 124, (north end, Brickell hammock, Miami, Florida) [Paratype MCZ 85896] [is *roseatus* Pilsbry; Clench 1939, p. 83].

lossmanicus Pilsbry, **L.c.**: 1912, JANSF (2) **15**, p. 448, pl. 37, fig. 8-8b (Lossman's hammock [S.W.] Florida) [Holotype ANSP; Paratypes MCZ 48156].

lucidovarius Doe, **L.c.**: 1937, NM **29**, no. 2, p. 82, text fig. 2, no. 6 (Florida) [is *floridanus* Clench; Clench 1939, p. 86].

lutea Anton, **Achatina**: 1839, Verzeich. der Conchylien., p. 44, no. 1588 [nude name; non *luteus* Simpson].

lutea 'Anton' Pilsbry, **Achatina**: 1899, M of C (2) **12**, p. 168 [is *fasciatus* Müller; Pilsbry 1899, p. 168].

luteolozonatus Guitart, **L.c.**: 1945, RSM **3**, p. 30, pl. 4, fig. 5-6 (Finca Ojo de Agua, Lomas de Banao, Sancti Spíritus, Cuba) [Paratypes MCZ 153817; Museo Poey].

luteus Simpson, **L.c.**: 1920, PBSW **33**, p. 123 (above Conchtown, Key Vaca, Florida) [Paratype MCZ 85890] [is *lossmanicus* Pilsbry; Clench 1939, p. 83, non *lutea* 'Anton' Pilsbry].

mariae Clench, **L.f.**: 1936, N **48**, p. 123, pl. 7, fig. 3 (Ojo de Agua, near Cayo Magueyal, Pinar del Río, Cuba) [Holotype MCZ 94224].

marmoratus Pilsbry, **L.f.**: 1912, JANSF (2) **15**, p. 453, pl. 37, fig. 9-9d, 10 (Key Vaca and Chokoloskee, Florida) [Holotype ANSP].

matecumbensis Pilsbry, **L.c.**: 1912, JANSF (2) **15**, p. 446, pl. 37, fig. 5-5a (Upper Matecumbe Key, Florida) [Holotype ANSP].

mcgintyi Clench, **L.f.**: 1934, OPBSNH **8**, p. 116, pl. 7, fig. 10 (Cueva del Chivo, Mariel, Cuba) [Holotype MCZ 47384].

miamiensis Simpson, **L.f.**: 1920, PBSW **33**, p. 124 (Miami hammock [Brickell hammock], Miami, Florida) [is *castaneoazonatus* Pilsbry; Clench 1939, p. 84].

- mosieri** Simpson, L.c.: 1920, PBSW **33**, p. 123 (upper end, Brickell hammock, Miami, Florida) [Paratypes MCZ 85899] [is *elliottensis* Pilsbry; Clench 1939, p. 82].
- multilineatus** Ledón, L.f.: 1944, RSM **2**, p. 13, pl. 3, fig. 2 (Monte del Tarabico, Hoyo de Padilla, Cienfuegos, Cuba) [Paratypes Museo Poey].
- murrea** Reeve, *Achatina*: 1849, Conch. Icon. **5**, pl. 7, fig. 22a-b (locality unknown) [fig. 22a is *fasciatus* Müller, and fig. 22b is *L. f. roseatus* Pilsbry; Clench 1932, p. 106].
- nebulosus** Doe, L.c.: 1937, NM **29**, p. 82, text fig. 2, no. 4 (Florida) [is *floridanus* Clench; Clench 1939, p. 86].
- nobilis** Clench and Aguayo, L.f.: 1932, N **45**, p. 98, pl. 6, fig. 9 (Cayo Juan Tomas, Cabañas Bay, Pinar del Río, Cuba) [Holotype MCZ 47904].
- organensis** Clench, L.fl.: 1934, OPBSNH **8**, p. 124, pl. 6, fig. 8 (Ensenada del Valle, El Queque, Viñales, Cuba) [Holotype MCZ 80958].
- ornatus** Simpson, L.f.: 1920, PBSW **33**, p. 124 (Paradise Key [Royal Palm Park] Florida).
- Orthalicinus** Fischer and Crosse 1878: Mission Scientifique au Mexique Zoologie pt. 7, **1**, p. 436 (subgenotype, *Orthalicus fasciatus* Müller, original designation) [This is a synonym of *Oxystrombus* Mörch; Pilsbry 1899, p. 162].
- osmenti** Clench, L.f.: 1942, Proceedings of the New England Zoological Club **19**, p. 69 (Lower Florida Keys (Pine Islands) Florida) [Holotype MCZ 137792].
- Oxystrombus** 'Klein' Mörch 1852: Catalogus Conchyliorum, p. 21; Mörch 1865, Journal de Conchyliologie **13**, p. 270 [subgenotype here selected, *Buccinum fasciatum* Müller].
- pallida** Swainson, *Achatina*: 1821, Zoological Illustrations **1**, text and pl. 41, fig. 1-2 (locality unknown [Cayo Magueyal, near Cortez, Cuba; Clench 1934, p. 104]).
- picta** Reeve, *Achatina*: 1842, Proc. Zool. Soc. London **10**, p. 56 (Cuba [Florida]); 1842 Conchologia Systematica **2**, pl. 178, fig. 10.
- This species very probably came only from Key West, Florida as nothing approximating this species has since been found in Cuba. As *Liguus* was known to occur in Cuba long before any Florida forms were known, unlocalized material was assumed to be Cuban. Very probably *L. picta* was early exterminated. The island of Key West was the only island in the early days that was readily accessible from the sea among the lower Florida Keys. Wood for fuel and other uses was at hand but limited so that the hammock land was soon cleared with a consequent extermination of any *Liguus* population. Also the nearest color form to *picta* is *L. solidus solidulus* which still exists or did exist up to a very short time ago on Stock Island, the next island east of Key West.
- pilsbryi** Clench, L.b.: 1935, N **48**, p. 123, pl. 7, fig. 1 (Campo de Tiro, 7 km. N. of Fierro, Pinar del Río, Cuba) [Holotype MCZ 94213].
- pinarensis** Clench, L.f.: 1934, OPBSNH **8**, p. 115, pl. 6, fig. 9 (Punta del Este, Isle of Pines, Cuba) [Holotype MCZ 58806].

- poeyana** Pfeiffer, **Achatina**: 1857, Malakozologische Blätter **4**, p. 173, pl. 4, fig. 3-4 (Cabo Cruz, Cuba) [is *vittatus* Swainson; Clench 1934, p. 102].
- pseudopictus** Simpson, **L.s.**: 1920, PBSW **33**, p. 122 (upper end of Lower Matecumbe Key, Florida).
- Pseudotrochus** 'Klein' Herrmannsen 1847: Indicis Generum Malacozoorum **2**, p. 341.

Herrmannsen was the first post-Linnean author to use this old name of Klein. He lists only two species, namely, *Achatinam virgineam* Linné and *Cerithium telescopium* Linné. *Achatinam virgineam* Linné is here designated to be the genotype, thus making it an absolute synonym of *Liguus* Montfort which has the same type designation.

In the M of C (2) **12**, 1899, p. 161, Pilsbry clearly indicated *Pseudotrochus* as a synonym of *Liguus* s.s. and credited the genus to Mörch 1852. In a later volume (M of C (2) **16**, 1904, p. 219) he overlooked this earlier usage and dated it from H. and A. Adams 1855 for an African genus. This later use is invalid under the rules of the International Commission of Zoological Nomenclature inasmuch as Herrmannsen's Index and the Catalogue of the Comes de Yoldi Collection by Mörch are accepted publications, and as such, names proposed in them are valid.

Pseudotrochus of authors (non Herrmannsen 1847; Mörch 1852; Heilprin 1887; Kittl 1899) will have to take the name *Lignus* Gray 1834, Proceedings of the Zoological Society London **2**, p. 66, with the genotype, *Lignus tenuis* Gray here selected. Gray very probably intended to write *Liguus* to include this species, but he did not correct it in any later volumes of the Proceedings and it is listed in the index as *Lignus*. Neave (Nomenclator Zoologicus **2**, 1939, p. 942) lists it as a validly introduced genus.

- puellaris** 'Roeding' Pfeiffer and Clessin, **Ilotia**: 1881, Nomenclator Heliceorum Viventium, p. 260 (Haiti) [is *virgineus* Linné, Pfeiffer and Clessin above].
- puellaris** Roeding, **Plotia**: 1798, Museum Boltenianum, p. 96 (no locality given) [is *Bulla virginea* Linné, Roeding above].
- roseatus** Pilsbry, **L.f.**: 1912, JANSF (2) **15**, p. 448, pl. 38, fig. 11-11b (Goodland Point, Marco Island, Lee Co., Florida) [Holotype ANSP].
- roseus** Pilsbry, **L.f.**: 1912, JANSF (2) **15**, p. 461 [error for *roseatus* Pilsbry].
- russelli** Clench, **L.fl.**: 1935, N **48**, p. 125, pl. 7, fig. 2 (Mogote Mina Constancia, Viñales, Cuba) [Holotype MCZ 82980].
- sanchezi** Ledón, **L.f.**: 1944, RSM **2**, p. 11, pl. 3, fig. 3 (Loma de Ponce, pasado el Río Caburni, Trinidad, Province of Las Villas,* Cuba) [Paratype, Museo Poey].
- sanctispiritensis** Guitart, **L.f.**: 1945, RSM **3**, p. 31, pl. 4, fig. 7-10 (Loma Caja de Agua, Finca Las Delicias, Tuinucú, Sancti Spíritus, Cuba) [Paratypes MCZ 153814; Museo Poey].

* This is the Province of Santa Clara. The name has recently been changed to Las Villas, a name formerly used for this Province.

- septentrionalis** Pilsbry, L.c.: 1912, JANSF (2) **15**, p. 447, pl. 37, fig. 6-6a (New River below Ft. Lauderdale, Florida) [Holotype ANSP].
- simpsoni** Pilsbry, L.f.: 1921 N **34**, p. 140 [new name for *lineatus* Simpson 1920, non *lineatus* Valenciennes 1827].
- sinistralis** 'Maltzan' Crosse, L.: 1891, Journal de Conchyliologie **39**, p. 129 (Miragoane, Haiti) [is *virginicus* Linné].
- solida** Say, *Achatina*: 1825, JANSF **5**, p. 122 (Florida) [Holotype ANSP].
- solidulus** Pilsbry, L.s.: 1912, JANSF (2) **15**, p. 463, pl. 37, fig. 2a (Big Pine Key, Florida [also Stock Island, Key West, Florida]) [Holotype ANSP].
- solisoccasus** de Boe, L.f.: 1933, N **47**, p. 68, pl. 6, fig. 5-6 (hammock CC6, central Everglades, Collier Co., Florida) [is *testudineus* Pilsbry; Clench 1939, p. 85] [Paratypes MCZ 40161].
- splendidus** Frampton, L.s.: 1932, PBSW **45**, p. 57 (middle hammock, Lower Matecumbe Key, Florida) [Paratypes MCZ 80454].
- subcrenatus** Pilsbry, L.c.: 1912, JANSF (2) **15**, p. 445, pl. 37, fig. 7-7a ([east end] Lower Matecumbe Key, Florida) [Holotype ANSP; Paratypes MCZ 48155].
- sulphurea** Mörch, L.: 1852, Catalogus Conchyliorum Comes de Yoldi, p. 21 (Cuba) [nude name].
- testa-ovi** Röding, *Helix*: 1798, Museum Boltenianum **2**, p. 106, no. 1359 [is *fasciatus* Müller, Pilsbry 1929, p.141].
- testudineus** Pilsbry, L.f.: 1912, JANSF (2) **15**, p. 457, pl. 39, fig. 20-20f (south side of Miami River [Brickell Hammock] Miami, Florida) [Holotype ANSP].
- tigre** Ledón, L.f.: 1944, RSM **2**, p. 12, pl. 3, fig. 1 (Monte de Lewis, San Juan, Cienfuegos, Cuba) [Paratypes Museo Poey].
- torrei** Clench, L.f.: 1934, OPBSNH **8**, p. 114, pl. 6, fig. 5-6 (Punta del Este, Isle of Pines, Cuba) [Holotype MCZ 58805].
- vacaensis** Simpson, L.c.: 1920, PBSW **33**, p. 122 (southwest of Conchtown, Key Vaca, Florida) [is *elliottensis* Pilsbry; Clench 1939, p. 82].
- versicolor** Simpson, L.f.: 1920, LFW, frontispiece, fig. 12 (Big Hammock, Long Key [Osteen's hammock, Long Pine Key] Everglades, Florida) [Paratypes MCZ 85894].
- vexillum** Bruguière, *Bulimus*: 1792, Encyclopédie Méthodique **1**, pt. 2, p. 362 (Grandes Indes); non *vexillum* DeKay [is *fasciatus* Müller; Pilsbry 1899, p. 167].
- vexillum** 'Humphrey' DeKay, *Achatina*: 1843, Natural History of New York, Mollusca **5**, p. 56, pl. 4, fig. 56 (Florida); non *vexillum* Bruguière [is *virginicus* Linné; Pilsbry 1899, p. 164].
- vignalensis** 'Pilsbry' Richards, L. *murreus*: 1933, Proceedings Pennsylvania Academy of Sciences **7**, p. 171, [nude name; is *fasciatus* Müller; Clench 1934, p. 102].
- violafumosus** Doe, L.c.: 1937, NM **29**, p. 83, text fig. 4, no. 8 (Florida) [is *floridanus* Clench; Clench 1939, p. 86].

- virginea** Linné, **Bulla**: 1767, *Systema Naturae*, ed. 12, p. 1186 (Rivers of Africa [Hispaniola]).
- viridis** Clench, **L.f.**: 1934, *OPBSNH* **8**, p. 105, pl. 6, fig. 11 (La Caoba, Dolores, Central Soledad, Cienfuegos, Cuba) [Holotype MCZ 59507].
- vittata** Swainson, **Achatina**: 1822, *Zoological Illustrations* **2**, text and plate 84, middle figures (locality not given) [Cabo Cruz, Cuba; Pilsbry 1899, p. 166].
- vittata** 'Humphrey' Pfeiffer and Clessin, **Chersina**: 1881, *Nomenclator Heliceorum Viventium*, p. 260 (Haiti) [is *virginicus* Linné; Pfeiffer and Clessin 1881, p. 260].
- walkeri** Clench, **L.f.**: 1933, *N* **46**, p. 91, pl. 7, fig. 7-9 (hammock no. 9, Pinecrest region, central Everglades, Florida) [Holotype MCZ 79299] [is *castaneozonatus* Pilsbry; Clench 1939, p. 84].
- xanthus** Clench, **L.f.**: 1934, *OPBSNH* **8**, p. 113, pl. 6, fig. 12 (between San Nicholas and Güines, Havana Province, Cuba) [Holotype MCZ 47380].

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